DRAFT
10/6/10

Appendix A: UTC Response to EPA Follow Up Request For Information

More Specific Responses to Questions in Enclosure B to EPA Request for Information dated October 15, 2009:

1. United Technologies Corporation (UTC) is a large multi-industrial company. A copy of the most recent UTC Annual Report was enclosed as Attachment E to the UTC Section 104(e) Response submitted to EPA by letter dated November 13, 2009 (re-sent on 1/6/10).

2. To the best of our knowledge and belief, the only United Technologies Corporation facility that shipped drums or containers to the Bay Area Drum (BAD) Site was the former United Technologies Corporation Chemical Systems Division (UTC Facility) located at 600 Metcalf Road in Santa Clara County. The UTC Facility manufacturing and service operations were terminated in late 2004. Since that date the UTC Facility has been going through decommissioning and demolition activities by contractors.

During the Relevant Time Period, the UTC Facility was the only UTC manufacturing facility located in northern California. Various subsidiaries of UTC currently have manufacturing operations in southern California (Burbank, Canoga Park, Long Beach, Los Alimitos, Ontario, Pomona, San Diego, Santa Barbara and Victorville). These facilities were all acquired between 1999 and 2008. We assume that none of these facilities shipped drums to the BAD Site which was located hundreds of miles away in northern California. Accordingly, the remainder of our below, supplemental response is limited to the UTC Facility.

3. The UTC Facility at 600 Metcalf Road in Santa Clara County developed, manufactured and tested solid rocket motor propulsion systems for the Department of Defense and NASA. The solid rocket motors consisted of a fuel (aluminum), source of oxygen (ammonium perchlorate) and a rubber-like polymer that held the fuel and oxygen source. The UTC Facility started manufacturing operations in the early 1960s and ceased at the end of 2004.

4. As previously stated in an earlier question, the UTC Facility has been closed since late 2004. The UTC Facility has thousands of boxes of records from 1960 through 1988. These records are now in off-site storage at an Iron Mountain location, including some records originating from Accounting, Human Resources, Accounts Payable and Programs Departments. The type, quality, and quantity of retained records are unknown. The records may be hard copy and/or electronic. It is not known whether the electronic records will be readable. It is not known whether these records include information regarding the storage, purchasing and use of some of the Substances of Interest (SOIs).

Records that appeared to be relevant to the subject Request were transmitted to the U.S. EPA by letter dated November 13, 2009. These records consisted of the following (attachments A-D cited below are to the UTC letter dated 11/13/09):

- BAD Receiving Tickets & Invoices, BAD Account Ledgers, Waymire Account Ledgers, Responses to DTSC Information Request, Jack Hamilton's Estimates, Davis Cannon's Estimates and Myers Drum Co. Records (Attachment A),
- An Information Request for the BAD Site from the State of California, DTSC, dated May 22, 1992 (Attachment B),
- The response letter dated June 17, 1992 that describes the 1985 shipment by UTC to the BAD Site of 479 **(essentially empty)** drums (Attachment C) and
- A letter dated November 23, 1992 (Attachment D).

5. Yes, based on employee knowledge and chemical testing.

6. The majority of the chemicals used at the site were provided by the U.S. government as part of the manufacturing contracts. Lead was present at the UTC Facility in leaded paint that was applied to the exterior of some buildings and on some equipment, in leaded floors in some buildings, in lead pellets and in contaminated soil. Lead-based paints were also provided by the U.S. government for rocket motor cases and other product coatings. Zinc was present at the UTC Facility in contaminated soil. Mercury was present at the UTC Facility in mercury switches, mercury thermometers and mercury manometers. PCBs were present at the UTC Facility in contaminated soils at Station 0535 and at low levels in the transformer oil of some transformers.

7. It is not known when lead, zinc, mercury and PCBs were first present at the UTC Facility. Lead, zinc and PCB-contaminated soils were removed in the 1990s. Leaded floors, buildings with leaded paint, equipment with leaded paint and mercury-containing devices were removed during building decommissioning and demolition activities, primarily after 2004. There are still transformers on site with PCB levels below 50 ppm.

8. The average annual amount of lead-based paint present on site before its use was discontinued is not known. The average annual amount of mercury present on site in mercury-containing devices is not known.

In 1992 and 1993, a total of 4,891 tons (4,000 cubic yards) of soil were excavated from the Debris Area near Station 0891 and disposed of at the Kettleman Hills, California Class 1 landfill (Attachment G). The amount of lead was approximately 620 pounds, based on the average concentration of lead in the disposal soil. The amount of zinc was approximately 3,000 pounds, based on the average concentration of zinc in the disposal soil.

In 1995, a total of 3,940 tons of soil and 36 tons of concrete were excavated from Station 0535 and disposed of at the U.S. Ecology (US EPA Number NVT330010000) landfill near Beatty, Nevada (Attachment H). The amount of PCBs was approximately 230 pounds, based on the average concentration of PCBs in the disposal soil.

Other, smaller soil excavations also took place at the UTC Facility. However, the amount of soil removed was much smaller than these the two above-mentioned excavations. Contaminated soil was properly disposed of at permitted off site landfills (Class 1).

9. The annual volume of leaded paint and mercury-containing devices disposed by the UTC Facility is not known. As stated in the response to Question 8, large amounts of soil were disposed of in 1992, 1993 and 1995; while in most years, much less soil was disposed of. After 2004, many buildings were demolished, resulting in larger than usual volumes of lead and mercury.

In general, hazardous materials were disposed of at permitted landfills (Class 1). Some oils were incinerated for energy recovery. In limited cases, hazardous materials were thermally-treated, especially where there were energetic materials present.

10. Yes, based on employee knowledge.

11. Hydraulic oil was present at the UTC Facility in hydraulic presses, hydraulic lifts, hydraulic hoists and hydraulic pumps. Hydraulic oil was also stored on site to replenish the oil used in the hydraulic equipment. Transformer oil was present at the UTC Facility in transformers.

12. It is not known when hydraulic oil and transformer oil were first present at the UTC Facility. There are currently excavators, loaders and dump trucks with hydraulic oil that are involved with the UTC Facility demolition. There are also some transformers still on site.

13. The average annual amount of hydraulic oil present on site before its use was discontinued is not known. The average annual amount of transformer oil present on site in transformers is not known.

14. The annual volume of hydraulic oil disposed by the UTC Facility is not known. After 2004, many buildings were demolished, resulting in larger than usual volumes of hydraulic oil.

In the mid 1990s, two transformers were damaged and leaked. The impacted soils were removed and disposed of at a permitted facility. After 2004, a number of transformers were removed and sold to other parties. A few transformers were not sold; those transformers were drained of oil and the transformer carcasses were recycled and reclaimed off site. Hydraulic oil and transformer oil are California-regulated hazardous wastes. Currently, they are incinerated for energy recovery when they are disposed of.

15. At the UTC Facility, leaded paint was applied to the exterior of some buildings and on some equipment. Leaded floors were installed in some buildings to be a conductive floor to eliminate potential static buildup. Lead pellets were used as weights for physical testing. Mercury was used in mercury switches, mercury thermometers and mercury manometers. PCBs were used in some transformers. Hydraulic oil was used in hydraulic presses, hydraulic lifts, hydraulic hoists and hydraulic pumps. Transformer oil was used in pole-mounted and pad-mounted transformers. The period of time these SOIs were used is discussed in the responses to Questions 7 and 12.

The UTC Facility has thousands of boxes of records in storage from 1960 through the present. It is not known whether these records include the information requested in Questions 15.b through 15.d.

16. It is not known whether there are any records in storage that include the information requested in Question 16. Recently, the UTC Facility purchased a number of transformers containing transformer oil. These were new 10-KVA transformers, each containing 10 gallons of transformer oil.

17. It is not known whether there are any records in storage that include information about containers used to store an SOI or in which SOIs were purchased that were later removed from the UTC Facility.

18. It is not known whether there are any records in storage that include information about contracts or agreements regarding containers used to store an SOI or in which SOIs were purchased that were later removed from the UTC Facility.

19. It is not known whether there are any records in storage that include information about ownership of containers used to store an SOI or in which SOIs were purchased that were later removed from the UTC Facility.

20. The individuals with responsibility for procurement of materials at the UTC Facility are shown below. It is not known whether there is additional information in record storage.

Name: Mr. Barry Silverman
Title: Senior Analyst, Purchasing
Duties: Buyer
Date Performing Duties: Approximately November 2009 to the Present
Date of Termination: Currently employed

Name: Ms Verna Murrell
Title: Senior Analyst, Purchasing
Duties: Buyer
Date Performing Duties: Approximately April 2008 to October 2009
Date of Termination: Currently employed

Name: Ms Sheridan Fowler
Title: Unknown
Duties: Buyer
Date Performing Duties: Approximately August 2007 to April 2008

Name: Mr. Loren Cantrell
Title: Unknown
Duties: Buyer

Date Performing Duties: Unknown to approximately March 2007
Date of Termination: Approximately March 2007

Name: Ms Arleen Dukes
Title: Unknown
Duties: Unknown
Date Performing Duties: Unknown
Date of Termination: Unknown

21. It is not known whether there are any records in storage that include information that describe how each type of waste containing any SOIs was collected and stored at the UTC facility.

The contaminated soil removed from the Debris Area (discussed in the response to Question 8) was loaded onto trucks for off site disposal. The contaminated soil and concrete removed from Station 0535 (discussed in the response to Question 8) was loaded onto trucks or bins for off site disposal.

Recently, the UTC Facility has been undergoing building decommissioning and demolition activities. Leaded paint and leaded conductive floors are typically placed into roll-off bins, picked up and transported offsite for disposal. Mercury-containing devices may be placed in cubic yard boxes, 55-gallon steel drums or 5-gallon buckets, held for less than 90 days at permitted on site storage facilities and transported off site for disposal. Hydraulic oil is typically placed in 55-gallon steel drums, held for less than 90 days at permitted on site storage facilities and transported off site for disposal.

22. It is not known whether there are any records in storage that include information about the containers used to remove each type of waste containing SOIs from the UTC facility.

In the 1990s and 2000s, all waste containers were labeled with the contents of the containers. Containers of hazardous waste had a yellow rectangular label that clearly displayed the UTC facility's name and address, the physical nature of the contents, and a hazard warning.

In the 1990s and 2000s, waste containers included steel roll-off bins for contaminated soil, cubic yard boxes, 55-gallon steel drums, 5-gallon plastic buckets for mercury universal wastes and 55-gallon steel drums for hydraulic oil. The steel bins were painted yellow, red, blue and white. Generally, 55-gallon steel drums were black; however, some 55-gallon drums were other colors. Many 5-gallon buckets were white, but other colors may have been used. The cubic yard boxes were cardboard. Generally, the waste containers were new. However, reused containers could have been used.

23. It is not known whether there are any records in storage that include information about contracts or agreements regarding wastes generated at the UTC Facility that contained any SOIs.

Currently, the UTC Facility has a contract with a D3 decommissioning contractor to decommission the UTC Facility, including management of wastes generated at the site. The contractor and subcontractors load the waste and arrange for transportation to the treatment, storage and disposal facility. The wastes and waste containers are owned by the UTC Facility, the D3 decommissioning contractor acts as an agent for the UTC Facility.

24. The individuals with responsibility for environmental matters at the UTC Facility are shown below. It is not known whether there is additional information in record storage.

Name: Mr. Timothy Marker
Job Title: Environmental Manager
Duties: Manage environmental compliance including hazardous materials, hazardous wastes, industrial storm water and air.
Supervisor: Webb Harwell
Date Performing Duties: December 2000 to current
Date of Termination: Active employee
Nature of Information Possessed by Individual Concerning Waste Management at the UTC Facility: Overall knowledge of hazardous waste management program

Name: Mr. Bill Pratt
Job Title: Environmental Manager
Duties: Manage soil and groundwater remediation and environmental compliance including hazardous materials, hazardous wastes, industrial storm water and air.
Supervisor: Mr. Ron Michalak
Date Performing Duties: 1998 to December 2000
Date of Termination: 2004
Nature of Information Possessed by Individual Concerning Waste Management at the UTC Facility: Overall knowledge of remediation waste management

Name: Mr. Don Osterholt
Job Title: Environmental Projects Manager
Duties: Manage soil and groundwater remediation
Supervisor: Mr. Ron Michalak
Date Performing Duties: 1980s to 1998
Date of Termination: Early 2000s
Nature of Information Possessed by Individual Concerning Waste Management at the UTC Facility: Overall knowledge of remediation waste management

Name: Mr. Bernie Zaboski
Job Title: Environmental Engineering Manager
Duties: Manage environmental compliance including hazardous materials, hazardous wastes, waste water, drinking water, industrial storm water and air.
Supervisor: Mr. Ron Michalak
Date Performing Duties: 1994 to 1998

Date of Termination: 1998
Nature of Information Possessed by Individual Concerning Waste Management at the UTC Facility: Overall knowledge of hazardous waste management program

Name: Mr. Dale Thrasher
Job Title: Environmental Engineering Manager
Duties: Manage environmental compliance including hazardous materials, hazardous wastes, waste water, drinking water, industrial storm water and air.
Supervisor: Mr. Ron Michalak
Date Performing Duties: Early 1990 to 1994
Date of Termination: Mid 1990s
Nature of Information Possessed by Individual Concerning Waste Management at the UTC Facility: Overall knowledge of hazardous waste management program

Name: Mr. Steve Green
Job Title: Industrial & Systems Safety Engineering Manager
Duties: Manage safety and environmental compliance including hazardous materials, hazardous wastes, waste water, drinking water, industrial storm water and air.
Supervisor: Mr. Ron Michalak
Date Performing Duties: Unknown to approximately late 1989
Date of Termination: Approximately late 1989
Nature of Information Possessed by Individual Concerning Waste Management at the UTC Facility: Overall knowledge of hazardous waste management program

25. It is not known whether there are any records in storage that include information regarding purchase of drums or other containers from a drum recycler or drum reconditioner.

26. It is not known whether there are any records in storage that include information regarding whether the UTC Facility always kept its waste streams that contained SOIs separate from its other waste streams prior to 1988.

27. There were no known removal and remedial actions performed at the UTC Facility under CERCLA or TSCA mandated agency orders. In the 1990s, lead, zinc and PCB-impacted soils were cleaned up at one of the onsite RCRA units, the Open Burning Facility (see Attachments I through N). The UTC Facility site is currently undergoing RCRA Corrective Action under the oversight of the State of California and the USEPA.

28. Attachment D to the UTC letter dated 11/13/09 contains correspondence between the UTC Facility and Bay Area Drum, Meyers Drum and Bedini Steel Drum. The UTC Facility has thousands of boxes of records in storage from 1960 through the present. It is not known whether these records include any other records of communication between the UTC Facility and Bay Area Drum, Meyers Drum, Sorich Bucket and Drum, Waymire Drum, Waymire Drum and Barrel, Bedini Barrels, Bedini Steel Drum, Bedini Drum or other entities that operated the facility at 1212 Thomas Avenue, San Francisco.

29. It is not known whether there are any records in storage that have information regarding the storage, purchasing and use of any SOIs.

30. Please see attachments A-E to the UTC letter dated 11/13/09. In addition, Attachments G through N hereto (enclosed on CD) contain documents that are considered to be responsive to the previous 29 questions. The UTC Facility has responded to all questions based on current knowledge and belief.

Attachment G. *Debris Area Remediation Final Report (Panhandle)*, September 27, 1993.

Attachment H. *Completion of PCB Contaminated Soil Remediation at Station 0535*, December 20 1995.

Attachment I. *Open Burning Facility Interim Soil Remediation Status Report (Panhandle),* May 28, 1993.

Attachment J. *Panhandle Soil Remediation Status Report,* September 27, 1993.

Attachment K. *OBF Area 7 Interim Remediation Status Report,* March 8, 1993.

Attachment L. *Final Report for Remediation of Debris-Impacted Soils Excavated From OBU-3 at the Open Burning Facility (Panhandle).* August 15, 1994.

Attachment M. *Soil and Groundwater Characterization Summary and Effectiveness Evaluation of the Improved Groundwater Extraction System at the Open Burning Facility,* April 30, 1996.

Attachment N. *Results of Additional Soil Investigation and Proposed Cleanup Goals for Closure of the Open Burning Facility,* July 21, 1998.